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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,812	09/17/2001	James A. Hagan	ROC9-2001-0062-US1	8204

7590 11/06/2003

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EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT	PAPER NUMBER
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3723

DATE MAILED: 11/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/954,812

Applicant(s)

HAGAN ET AL.

Examiner

Anthony Ojini

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Applicant's election of claims 1-20 without traverse and cancellation of claims 21-43 in Paper No. 5 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuramoto (JP1005759) in view of Wang et al. (5,447,466) and ~~Boucher et al.~~ (5,718,615).

With respect to claims 1,3, Kuramoto discloses a method for manufacturing a disc substrate comprising the steps of providing a disc substrate (2) having a circumferential edge (25), loading the disc substrate to an edge finishing apparatus; and grinding the circumferential edge of the disc substrate in a non-ductile mode.

Kuramoto fails to disclose step of coarse grinding the circumferential edge of the disc substrate in a ductile grinding regime.

Kuramoto also fails to disclose disk substrate being of a material from the set of material consisting of: glass, ceramic, and a combination of glass and ceramic.

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Boucher et al. disclose a disk substrate being of a material from the set of material consisting of: glass, ceramic, and a combination of glass and ceramic (see col. 1, lines 28-32).

Wang et al. disclose a method for manufacturing a disc substrate comprising the step of grinding the disc substrate in a ductile grinding regime.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Kuramoto with the step of grinding a disc substrate in a ductile grinding regime in view of Wang et al so as to prevent fracture on the surface of the substrate disc.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Kuramoto with disclose a disk substrate being of a material from the set of material consisting of: glass, ceramic, and a combination of glass and ceramic in view of Boucher et al. so as to ensure high yield dicing.

With respect to claim 4, Kuramoto discloses a disc that contains an outer circumferential edge and a central aperture defining an inner circumferential edge, and wherein grinding step is applied to both the outer circumferential edge and inner circumferential edge of the disc (see figs.1, 2).

With respect to claim 5, Kuramoto discloses wherein the grinding step comprises grinding said edge with a formed grinding appliance conforming to an edge radius at said circumferential edge (see fig. 2).

With respect to claims 6,7, Kuramoto fails to disclose optimum values as claimed by the applicant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Kuramoto with optimum values as claimed by the applicant, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 2,8,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuramoto in view of Wang et al. and Boucher et al. (5,718,615) as applied to claim 1 above, and further in view of Bajorek (6,363,599).

With respect to claim 2, Kuramoto fails to disclose the glass disc is a disk drive device that is a rotating magnetic disk drive data storage device and subsequently coated with a magnetic coating after grinding step.

Bojorek discloses glass disk drive device that is a rotating magnetic disk drive data storage device that is being subsequently coated with a magnetic coating after grinding step (see col. 2, lines 18-41 & figs. 10-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Kuramoto with the step of grinding a disc substrate in a ductile grinding regime in view of Bajorek so as to prevent damage on the surface of the substrate disc.

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With respect to claims 8,9, Kuramoto fails to disclose the glass substrate is finished for installation in a disk drive data storage device without chemical strengthening of the disk substrate.

Wang et al. disclose a glass disk that is not chemically strengthenable (see summary of the invention).

Bajorek discloses a glass substrate that is finished for installation in a disk drive data storage device (see col. 2, lines 18-41 & figs. 10-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Kuramoto with a glass disc that is finished for installation in a disk drive data storage device and which is not chemically strengthenable in view of Bajorek and Wang et al. so as prevent fracture on the surface of the substrate disc.

Claims 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuramoto in view of Wang et al., Boucher et al. (5,718,615) and Bajorek.

With respect to claim 10, please refer to claims 1,2,9 above.

With respect to claims 11,17, Kuramoto is discussed above; please refer to claim 1 above.

With respect to claims 12, 18, please refer to claim 2 above.

With respect to claims 13, 19, please refer to claim 4 above.

With respect to claims 14,20, please refer to claim 5 above.

With respect to claims 15,16, Kuramoto discloses a method for manufacturing a glass disc substrate comprising the steps of providing a glass disc (2) having a circumferential

edge (25), loading the disc substrate to an edge finishing apparatus; and grinding the circumferential edge of the disc substrate by application of grinding stones (a form of mechanical forces).

Kuramoto fails to disclose the glass substrate is for use in a disk drive data storage device. Kuramoto also fails to disclose finishing step is being accomplished without chemical strengthening of the disk substrate.

Wang et al. disclose a glass disk that is not chemically strengthenable (see summary of the invention).

Bajorek discloses a glass substrate that is finished for installation in a disk drive data storage device (see col. 2, lines 18-41 & figs. 10-11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Kuramoto with a glass disc that is finished for installation in a disk drive data storage device and which is not chemically strengthenable in view of Bajorek and Wang et al. so as prevent fracture on the surface of the substrate disc.

Response to Amendment

Applicant's arguments filed 7/7/03 have been fully considered but they are not persuasive.

Applicant argues that the U.S. Patent No. JP1005759 to Kuramoto "does not disclose finishing the edge of a glass recording disk by ductile grinding". However, Wang et al. disclose the concept of grinding a disc substrate in a ductile grinding regime.

Applicant argues that the U.S. Patent No. 5,447,466 to Wang et al. "does not disclose the application of ductile grinding to edge finishing of glass recording disk". However, Wang et al. disclose the concept of grinding a disc substrate in a ductile grinding regime but fail to show the step of grinding to edge finishing of glass recording disk. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham* 2 USPQ 2d 1647 (1987).

Applicant argues that "the Examiner's combination of Wang and Kuramoto is based on hindsight from applicants' disclosure". However, in response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues that the U.S. Patent No. 6,363,599 B1 to Bajorek "does not contain the critical suggestion to use ductile or some equivalent process to avoid chemical strengthening of the edges". However, Bajorek discloses the concept of a glass substrate that is finished for installation in a disk drive data storage device.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7.30 to 5.00 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308 3590 for regular communications and 703 746 3277 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.

AO
November 1, 2003

A handwritten signature in black ink, appearing to read 'Lee D. Wilson', written in a cursive style.

**LEE D. WILSON
PRIMARY EXAMINER**